REMARKS

I. Introduction

As a preliminary matter, applicants have not yet received an initialed SB08 form submitted with an IDS filed on September 27, 2002. For the examiner's convenience, applicants submit herewith a duplicate SB08 and applicants respectfully request that the cited references be acknowledged.

Receipt is acknowledged of a final office action dated January 26, 2005. In the action, claims 7-10, 24, 25, 30-32, 40, 41-44, 48-50, 55 and 57 were rejected as allegedly failing to meet the written description requirement.

All other rejections in the June 30, 2004 office action were deemed withdrawn. Applicants respectfully request reconsideration of the present application in view of the foregoing amendments and for the following reasons.

II. Status of the Claims

In this response, claims 8, 9, 25, 30-32, 42 and 48 have been amended, and new claims 58-60 have been added. Support for the amended and new claims can be found in the originally filed claims and in paragraphs [0036] and [0039] on pages 10 and 11 of the present specification.

Because the foregoing amendments do not introduce new matter, entry thereof by the Examiner is respectfully requested. Upon entry of this amendment, claims 1 and 3-10, 22, 24, 25, and 28-60 will be under examination.

III. Rejection of the Claims under 35 U.S.C. § 112, 1st Paragraph

Claims 7-10, 24, 25, 30-32, 40, 41- 44, 48-50, 55 and 57 were rejected under 35 U.S.C. § 112, 1st paragraph as allegedly failing to comply with the written description requirement. In particular, the claims were rejected because the terms "receptor antagonizing domain," "apoptosis promoting domain" and "positive immunomodulatory domain" because "the disclosure only provides general descriptions of the domains without specifically characterizing

any structure or providing representative species to be entitled to the broad genus claimed." Office action at 3. Further, the examiner indicates that the rejected claims are not associated with a functional activity. Office action at 3. Applicants respectfully traverse this ground for rejection.

As stated in applicants' last response, the terms "receptor-antagonizing domain," "apoptosis-promoting domain" and "positive immunomodulatory domain" are domains that are identified by their function. Indeed, the specification states that "[t]he overall structure and composition of the inventive domains . . . are important insofar as they confer the appropriate functional characteristics, *i.e.*, receptor antagonism, apoptosis induction, positive immunomodulation." Specification at 14, paragraph 43. Thus, a skilled artisan would recognize that these three terms, as recited in the claims, also incorporate functional features.

In fact, endogenous prolactin can signal by binding two prolactin receptors, thereby inducing prolactin receptor dimerization and triggering signal transduction into the cancer cells. An amino acid substitution at position 129, for example, will produce a prolactin antagonist domain. Likewise, growth hormone binds the growth hormone receptor and "[g]rowth hormone receptor (GHR) dimerization is thought to be a key step for HG [*sic*] signal transduction." Specification at 17, paragraph [0049]. An amino acid substitution at position 120 for hGH, for example, "will prevent [GH] receptor dimerization, resulting in a growth hormone antagonist." Specification at 17, paragraph [0049]. Thus, a prolactin antagonist domain and a growth hormone antagonist domain have functional connotations.

Additionally, the specification, beginning on page 10, describes a receptor antagonizing domain and an apoptosis promoting domain. Thus, in addition to functional language, structural guidance is provided in the present application. *See, e.g.*, specification at 12-13, paragraphs 39-41, and page 14, paragraph 44 to page 17, paragraph 48. In fact, the claims also recite structure. For example, many claims state that the receptor antagonizing domain is "prolactin-antagonist domain that has an arginine at position 129 of the prolactin protein" (claim 8) or a growth hormone antagonist domain (claims 48, 50, and 57) that contains an amino acid substitution at position 120 (claim 49), or comprises a specific sequence or fragment thereof which may or may not contain conservative amino acid substitutions (claims 9, 30-32, 43). Furthermore, the

sequences of prolactin and growth hormone were known in the art at the time of filing. *See, e.g.*, Table I on pages 13-14 of the specification, which provides a species comparison of prolactin (page 13-14) and growth hormone (page 14) amino acid sequences. Thus, a prolactin antagonist domain or a growth hormone antagonist domain has structural implications as well.

Nevertheless, in the interest of expediting prosecution, applicants amended claims 30-32 to specifically recite functional language. The remaining amendments clarify the present invention.

Furthermore, it is unclear why claims 7 and 55 were rejected since both claims recite that the protein is a prolactin antagonist-IL-2 fusion protein or a growth hormone antagonist-IL-2 fusion protein, respectively. A prolactin antagonist-IL-2 fusion protein is described in paragraphs [0057] and [0058] and exemplified in figures 1(B) and 5. Likewise, a growth hormone antagonist is described in detail in paragraph [0049] on page 17 of the specification. Thus, the fusion proteins of claims 7 and 55 both recite structural and functional features and are adequately described in the present application.

Therefore, for at least these reasons, withdrawal of the rejections and reconsideration of the application is respectfully requested.

CONCLUSION

Reconsideration of the present application in view of the foregoing amendments and arguments is kindly requested.

It is respectfully urged that the present application is now in condition for allowance. Early notice to that effect is earnestly solicited.

Examiner Yaen is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

Respectfully submitted,

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